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NATIONAL HEALTH INSURANCE

MEDICAL RESEARCH COMMITTEE

**An Analysis of the Results of Wassermann
Reactions in 1,435 cases of Syphilis or
Suspected Syphilis**

*Approved for Publication by the Medical Research Committee,
17 January, 1919*

Medical Research Committee.

(National Health Insurance.)

The Hon. WALDORF ASTOR, M.P. (*Chairman*).

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15, BUCKINGHAM STREET,

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INTRODUCTION

THE Medical Research Committee are indebted to the Medical Department of the Admiralty for permission to publish in the present form this analysis of the results of the Wassermann reaction obtained in a large number of cases of syphilis or suspected syphilis. The outcome of this joint work by Surgeon Lieut.-Commander Fildes, whose services have been supplied by the Committee during the war for direction of the pathological work at the R.N. Hospital at Haslar, and by Surgeon Lieut.-Commander Parnell, is particularly opportune at the present time. It comes to supplement the report upon the diagnostic value of the Wassermann test recently issued by the Committee,¹ in which a review of other efforts towards determining the value of the test is given, with references to previous significant publications, together with an account of a special inquiry initiated by the Committee. In this the results of Wassermann tests performed by three well-known workers in a given series of cases were compared with the findings of a highly skilled observer from the clinical standpoint. The comparison supported the conclusion that 'the percentage of positive Wassermann reactions in active syphilis is so high that the test may, for all practical purposes, be looked upon as specific'.

In the present analysis by Surgeon Lieut.-Commanders Fildes and Parnell the same question is approached in another way. Their method is to put side by side the routine clinical and pathological records of over 1,400 unselected men who, in the circumstances, were available for close and repeated observation. The results given should be read in connexion with the recent report just mentioned. It will be seen that two conclusions emerge clearly from the analysis of the observations, one as to the value of negative reactions, the other as to the value of positive reactions. As the authors point out, the evidence obtained shows that 'negative reactions in cases of syphilis which exhibit manifest signs are very rare whether they have been treated or not, and thus the negative test is of very great significance in the exclusion of a diagnosis of syphilis'. At

¹ Reports of the Special Committee upon the Standardization of Pathological Methods, No. IV, 'The Diagnostic Value of the Wassermann Test'. *Medical Research Committee, Special Report Series, No. 21.*

the same time it has been found that of 1,177 men who gave positive reactions, 1,112 showed more or less conclusive evidence of syphilis. Of the remaining 65, while there was no direct conclusive evidence either for or against the presence of syphilis, it could be said that 'all of these men were, or had been, infected with venereal disease, and therefore that their condition was not inconsistent with diagnosis of syphilis'. On these grounds the authors will be regarded as justified in claiming that 'the overwhelming importance in diagnosis' of a positive Wassermann reaction is beyond reasonable dispute.

MEDICAL RESEARCH COMMITTEE,
15, Buckingham Street,
Strand,
W.C. 2.

30 December, 1918.

AN ANALYSIS OF THE RESULTS OF WASSERMANN REACTIONS IN 1,435 CASES OF SYPHILIS OR SUSPECTED SYPHILIS

BY

HON. SURGEON LIEUTENANT-COMMANDER P. FILDES, R.N.V.R.,
Assistant Bacteriologist to the London Hospital,
Senior Medical Officer, Laboratory, R.N. Hospital, Haslar,

AND

SURGEON LIEUTENANT-COMMANDER RODERICK J. G. PARNELL, R.N.,
Senior Medical Officer, Venereal Section, R.N. Hospital, Haslar.

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I. INTRODUCTION.

THE object of the present report is to show how the results of the Wassermann reaction compare in routine practice with the clinical findings. The improvements which have taken place in the technique of the reaction require that information upon this subject should be revised. In the literature¹ it has been the custom to show that such and such a percentage of primary, secondary, or tertiary syphilitics give positive Wassermann reactions, but considerable variation exists in the reports of the various workers, particularly in what are described as 'latent' cases. To any one, however, who is engaged in the practical study of these questions and proposes to divide a large material

¹ See 'The Diagnostic Value of the Wassermann Test' (*Medical Research Committee, Special Report Series*, No. 21), Historical Survey with Table of References, pp. 5-30.

into these categories, it soon becomes apparent that the number of border-line cases is so large that they exert a considerable influence upon whichever group they are placed in. The percentage figure of positive results obtained in any group then becomes a more hard and fast figure than the data warrant. It therefore appears to us to be unsatisfactory to attempt to group cases into 'stages'.

Further, many of the publications in the literature have always appeared to us to be open to a certain degree of suspicion. It is customary to give lists of 'control cases', that is persons suffering from a variety of non-syphilitic diseases, in order to show that none of these diseases give positive Wassermann reactions.

We do not ourselves understand how this can be done in a purely *bona fide* manner, since any list of persons suffering from any type of disease always shows a certain percentage of positive results, and if these positives were credited to the disease in question the value of the Wassermann reaction would appear to be trivial. If they are not so credited they should not be merely left out without any explanation. The most notorious example of this difficulty is met with in Gonorrhoea, a disease which always figures largely among the controls. Now many cases of Gonorrhoea give positive Wassermann reactions, and, as will be seen later, in some of these no evidence of syphilis can be obtained. Nevertheless in the literature cases of Gonorrhoea always give negative reactions.

Under such circumstances it appears to us to be useless to give lists of diseases with thousands of Wassermann reactions, because in most of the inevitably positive cases no evidence of syphilis would be obtainable from our records.

We propose to approach the question from a different standpoint, and, instead of producing hard and fast tabulations of material which cannot be so tabulated with strict impartiality, we intend to compare the results of the tests with the actual clinical findings, and where these do not agree we assume that we are dealing with a reasonable reader who does not forget that syphilis is a very prevalent disease and that one man can suffer from two complaints.

This report naturally divides itself into two parts. We have before us the clinical and pathological records of some 1,400 men. Of these a number gave positive reactions, and we propose to review the clinical evidence which is available to confirm these positive results. From this we shall deduce that evidence of syphilis is available in a sufficiently large number to warrant the assumption that all of the positive men really had syphilis, in fact that a positive reaction actually indicates syphilis.

On the other hand, a number of men gave negative reactions, and we shall investigate their cases to find out if any, and if so, how many, of these were syphilitic. We shall then be in a position to say that no cases—or very few cases—of syphilis give negative results, and thus if a test is reported negative in a man suspected of syphilis it will be more or less improbable that the case is one of syphilis.

It appears to us that evidence of this nature is more convincing than a table of results, which must always be under suspicion when no clinical illustrations accompany it.

II. THE MATERIAL ANALYSED.

The series of Wassermann tests under survey consists of the first 'diagnostic' examination made in this hospital upon *every* man admitted into the venereal section for syphilis or suspected syphilis. In some cases this test was performed while the man was still at duty in a local establishment.

The investigation is confined to those men whose cases are entered upon the card index system, since the former method of recording was too cumbersome to analyse. Thus it consists of *every* man who was admitted between October 1, 1917, and June 30, 1918, and in addition a few rather older cases who have not been readmitted but who happen to have come under observation again and have been 'written up' on cards from the old notes.

No selection of cases has been made. None have been omitted.

The routine procedure by which the cases analysed are collected is as follows :

(a) Cases are admitted direct to the Venereal Section with diagnoses of syphilis made in local establishments without any laboratory tests having been applied. The Wassermann test which is then carried out is the one under review.

(b) Cases are admitted from ambulance trains with a diagnosis of syphilis made in another hospital. These have often received a small amount of treatment. They are subjected to the Wassermann test before further treatment, and this is the test under review.

(c) Cases are admitted which have been diagnosed as syphilis on the strength of a Wassermann test carried out by us before admission. This test is then the one to be reviewed.

(d) A number of cases are admitted in which *S. pallidum* has been found either by us or the Medical Officers in outside establishments. These are as a routine subjected to the Wassermann test after admission, and this is the one selected for review.

Unfortunately many of the men admitted with venereal sores had been treated outside with local antiseptic applications, and thus tests for *S. pallidum* often failed.

Every man admitted is examined according to a set routine, and the particulars are entered upon a card. This is designed not to collect a mass of detail which has ordinarily little diagnostic value, but to record the important features of every case upon a set plan which is convenient for the collection of mass statistics. All applicable laboratory tests are carried out as a routine, and every man is now lumbar-punctured. In many of the cases in which the lumbar puncture shows evidence of nervous disease, neurological and ophthalmological examinations are also made.

The following illustration of the front of the card will give an indication of the type of examination to which the men are subjected. It is filled up with a hypothetical case. The back of the card deals with reinfections and relapses upon a similar plan.

M. 207. (*Established—March, 1918.*)

No. H.R. 385.

A..... B..... Age, 18. *Rtng.*, O.Sea. *Ship*, 'Minotaur'. *Type*, C 1.
Adm., May 1, '18. *Disch.*, May 20, '18. *Days Sick*, 19. *Infect. Date*, Mar. 25, '18. *Place*, Portsmouth.

S. PALLIDUM.		WASSERMANN.		CLINICAL CONDITION.			
<i>Date.</i>	<i>Result.</i>	<i>Date.</i>	<i>Result.</i>	<i>Original :</i>			
May 2,'18	Pos.	May 4,'18	Pos.	<i>Present :</i> Multiple indurated sores on and under prepuce. Ulcer to right of fraenum. General adenitis. Papulo-squamous syphilide, trunk and limbs.			
				<i>Previous Treatment :</i> None.			
				<i>Condition on Discharge :</i> Sores healed ; rash fading.			
TREATMENT.			SUBSEQUENT HISTORY.				
<i>Date.</i>	<i>Dose.</i>	<i>Drug.</i>	<i>Date for W.R.</i>	<i>Ship.</i>	<i>Result.</i>	<i>Date.</i>	<i>Remarks.</i>
May 3,'18	0.45 grm.	N.A.B.	Aug. 1918	R.N.B. (Po.)	Neg.	Aug.11,'18	W.R. relapse. Recalled.
" 6 "	"	"	Nov. "	'Renown'	"	Nov.16, "	
" 9 "	"	"	Feb. 1919	"	Pos.	Feb. 8,'19	
" 12 "	"	"	May "				
" 15 "	"	"	Sept. "				
" 18 "	"	"	Feb. 1920				
			Aug. "				

C.S.F., May 3, 1918. { 4 lympho. per cmm.
W.R. neg.

The number H.R. 385 is the man's reference number, which is inscribed upon the syphilis papers which he carries with him. It is used in connexion with the 'follow up' system which ensures as far as possible that we are kept informed of the subsequent history of the man, in particular in connexion with subsequent Wassermann tests (*vide* Fildes and Parnell, *Journ. of the Royal Naval Medical Service*, July 1918).

The 'Type, C 1' indicates that the man is a C case and has been treated by us with the 'number 1' course of treatment.

A classification of cases of syphilis into 'stages' results in the discovery of so many borderland cases that, for statistical purposes, we divide our material upon a time basis or upon a basis which combines a time- and clinical-factor.

Thus an 'A' case is a man with an inoculation lesion in whom the Wassermann reaction has not yet become positive.

A 'B' case is a man with an inoculation lesion or with a history of an inoculation lesion but with no other signs or history of general infection except glandular enlargement and a positive Wassermann reaction up to and including 18 months from the date of infection.

A 'C' case is a man with signs or history of general infection, including a positive Wassermann reaction up to and including 18 months from the date of infection.

A 'D' case is a man with or without symptoms or signs over 18 months from the date of infection.

It will be observed that type A and B cases include all instances of 'primary' syphilis: C cases are the acute or recent cases of 'secondary' syphilis, but some early 'tertiary' lesions come under this category; while D cases include not only late 'secondary' but 'tertiary' and most 'latent' infections: further, this category also includes those cases which are ordinarily impossible to classify, namely men with a healed inoculation lesion in whom no signs of generalization have appeared although the infection was over 18 months before.

From the point of view of treatment the most important factor to determine is the time factor, and therefore we make special efforts to decide the probable date of infection and do not attempt to determine whether a man is a 'late secondary' or a 'tertiary' case. As for the expression 'latent', this is a misconception, and altogether ignores the fact that all who show a positive Wassermann reaction have active syphilitic lesions whether externally detectible or not.

The technique used in the carrying out of the Wassermann reaction is that of Fildes and McIntosh, described in the Interim Report of a special committee of the *Medical Research Committee* upon the standardization of pathological methods. (Special Report Series, No. 14, 1918.)

III. THE EVIDENCE OF SYPHILIS WHICH IS AVAILABLE TO CONTROL THE WASSERMANN REACTION.

It will be understood that great difficulty is inevitable in attempting to find evidence of syphilis in many cases which give positive Wassermann reactions.

This is very largely due to the fact that this reaction is accepted so completely as conclusive evidence of syphilis that in the hurry of routine work minor points are often not recorded, and it must be remembered that we are not now dealing with *cases* but with *records*, and the evidence we are seeking must be found, or not, as it stands in the records of the routine examinations.

We cannot make accessory examinations to clear up obscure points or make further inquiries from men who have passed far beyond our control.

It is first of all necessary to determine accurately what may be accepted as conclusive evidence of syphilis and what as sufficiently conclusive or suggestive evidence.

The only conclusive evidence of syphilis is the demonstration of *S. pallidum* in one of the lesions of the disease, but it is not practicable to confine the diagnosis to such narrow limits as this.

We are bound to follow the same lines of evidence which have been in use for centuries in the diagnosis of this disease, but we have by design weighed this evidence in an especially critical manner, in order that it may not be said that we have accepted trivialities as evidence of syphilis. We are of opinion that what we have accepted as evidence of syphilis cannot reasonably be disputed.

Most reliance has been placed on the following points :

(1) *The presence of S. pallidum.*

When *S. pallidum* has been demonstrated by us or by other observers whom we know to be reliable, we accept this as conclusive evidence of syphilis.

(2) *Clinical signs.*

(a) *Venereal sores.*—We cannot attach any value to a venereal sore as evidence of syphilis, unless it presents the characters known as ‘Hunterian’.

A ‘Hunterian’ sore we accept as conclusive evidence of syphilis, but all other sores, whether ‘indurated’ or not, are not of conclusive diagnostic importance unless *S. pallidum* can be demonstrated in them.

In a naval clinic such as this practically every man can give histories of ‘chancroids’ or ‘sores’, and numberless examples of these conditions may be observed. By physical examination it is not possible to detect which are due to *S. pallidum* and which are not ; the most unlikely looking ‘soft sores’ are found to contain *S. pallidum*, while definitely indurated ulcers fail to present any evidence of syphilis, either at the time of examination or later.

Therefore we pay no attention to such conditions in this review unless they contain *S. pallidum* or exhibit Hunterian characters.

Unfortunately a considerable proportion of these cases are still treated with local antiseptics before they come under hospital observation, and these applications very largely reduce the value of the negative spirochete test. It is found that in any untreated sore the existence of syphilis may be almost ruled out if spirochetes are not found at two examinations by the dark ground method ; but when the sore is treated this is no longer the case, and thus a number of our cases which give positive Wassermann reactions with sores on the penis as the sole suspicion of syphilis are deprived of the only definite test by which the diagnosis can be established.

Again, it is a common practice for medical officers who are not in a position to apply spirochete tests to give a man a dose of Galyl and then send him to hospital for further treatment. The evidence upon which the sore was thus diagnosed as syphilitic may or may not have been good, but in any case this evidence is seldom transmitted with the patient in a form which can be accepted as conclusive. Thus we are confronted with a further series of cases, which upon arrival have been treated, and show as the only evi-

dence of disease a healed or healing sore. When these, upon examination, show a positive Wassermann test we have no means of judging the accuracy of the result.

In all of such treated cases when the Wassermann reaction is positive we are of course compelled to continue treatment, but when the reaction is negative we discharge the patient under an organization for further observation until the diagnosis is more obvious.

(b) *Cutaneous exanthems. Lesions of the mucous membranes and other signs of generalized syphilis.*—The characteristic signs of generalized syphilis, whether late or early, may of course be taken as conclusive evidence. Only in the case of general glandular enlargement do we make an exception.

General adenitis is a characteristic feature of syphilis, but is present to a variable degree in different cases. Since this condition is often observed alone as the only clinical sign of disease, we think it better to exclude slight degrees of general adenitis and only accept it as conclusive evidence of syphilis when it is recorded as being 'marked'.

(c) *Abnormalities of the central nervous system.*—We have found that by means of lumbar puncture and an ophthalmoscopic examination of the eye grounds, evidence of disease may be detected when all other methods fail. Such lesions are accepted as conclusive evidence of syphilis.

(3) 'Histories' of syphilis.

As already indicated histories of venereal disease may be obtained from a large number of naval ratings, and thus such histories cannot be accepted as evidence of syphilis unless supported by exact details of the original condition.

When a man has a history of a 'sore on the penis' alone we reject the evidence, but when he has a history of a sore followed by a rash and sore throat or some other definite characteristic of syphilis we accept this as conclusive evidence, although it is, of course, only relatively conclusive.

Again, if a man is described as having had a sore on the penis which has appeared to the doctor who saw him at the time to be sufficiently characteristic to warrant a course of arsenical or even mercury treatment we are bound to accept this fact as evidence of syphilis.

It will be understood that in many of these cases *S. pallidum* was found at the time of treatment, but the written records which accompany the men are usually fragmentary and these facts are often omitted.

(4) The Wassermann reaction.

We consider that it is not illogical to bring forward previously or subsequently performed Wassermann tests as evidence of the correctness of that carried out upon admission to hospital.

In theory it would appear inadmissible to cite the test itself as evidence when the test itself is being proved, but it is impossible

to disregard confirmatory reactions entirely. The accuracy of the Wassermann reaction is, after all, accepted by the vast majority of authorities upon this subject, and the object of the present review is chiefly to show how it operates in practice in a large routine series of cases, and to demonstrate that there is no evidence to support the suggestion that it is prone to relatively frequent anomalies.

In the Interim Report of the Sub-committee of the Medical Research Committee examining this question (Special Report Series, No. 14. 1918) it is suggested that when a positive Wassermann reaction is the sole evidence of syphilis (detected by the particular observer who makes the clinical examination) it should be repeated, and if still positive it may then be accepted as proof of syphilis.

On these grounds we feel justified in accepting positive reactions performed outside the hospital before admission as proof of the correctness of our own test, and, similarly, the results of supplementary tests carried out by us after admission or after discharge to duty.

Unfortunately the number of cases is small in which this supplementary evidence can be adduced, because very few of the men have had Wassermann tests applied before admission, and if they had they were often negative. The men frequently were suffering from suspected primary syphilis with sores treated with antiseptics and were only admitted to hospital when we had demonstrated the existence of the positive reaction for the first time.

Again, since all cases when found to have a positive reaction were immediately subjected to intensive treatment, most of the tests which we were able subsequently to apply, gave negative results. As a routine they were only repeated when in our experience they were expected to give this negative result, namely three months after treatment.

In practice, therefore, it was only occasionally that we were able to make use of this supplementary evidence, namely in 61 cases in which this was the only direct evidence of syphilis.

(5) *The effect of treatment.*

The effect of anti-syphilitic treatment upon the manifest signs was of very little value to us as evidence of syphilis, because it was not necessarily carried out alone. In practically every case observed the lesions resolved, or were resolving, before discharge from hospital.

When dealing with soft sores in a patient who gave a positive Wassermann reaction, local treatment was always applied in addition to the anti-syphilitic treatment, and therefore it was not possible to differentiate between the curative effect of these two procedures.

If the effect of treatment is to be accepted as evidence of syphilis, it may be said to have been positive in practically every instance.

(6) *Relapses.*

When a man has a lesion which is treated as syphilitic on the sole evidence of a positive Wassermann reaction and subsequently develops obvious symptoms of syphilis as a relapse, this is to be accepted as conclusive evidence that the original lesion was syphilitic.

These occurrences were, however, so few in our series that they are of little or no assistance.

(7) *Previous apparently non-syphilitic venereal disease.*

When it is admitted by a man that he has had gonorrhoea, 'chancroids', or buboes, or when he shows definite evidence of such venereal diseases, it can be assumed that he *may* also have had syphilis. There was, however, hardly a man in the whole series who failed to give positive indications of this sort, and thus it cannot be used in evidence except to show that the history of all the men was consistent with a diagnosis of syphilis.

IV. THE EVIDENCE OF SYPHILIS OBTAINED IN THOSE CASES WHICH GAVE POSITIVE WASSERMANN REACTIONS.

1,177 men were found to give positive Wassermann reactions and the following is the confirmatory evidence of syphilis :

(A) 938 men were conclusively shown to be syphilitic by reason of the presence of *S. pallidum* or clinical signs or histories of a generalized condition characteristic of syphilis (*vide* Table 1, p. 16).

(B) 62 men were accepted as syphilitic on the evidence of anti-syphilitic treatment having been previously applied for local venereal conditions which in the opinion of the medical officer responsible for treatment were syphilitic (*vide* Table 2, p. 26).

(C) 16 men were shown to be syphilitic by means of lumbar puncture and ophthalmological examination (*vide* Table 3, p. 30).

(D) 5 men were shown to be syphilitic by methods B and C (*vide* Table 4, p. 30).

(E) 61 men were accepted as syphilitic by reason of previous or subsequent positive Wassermann reactions (*vide* Table 5, p. 32).

(F) 4 men were diagnosed by methods C and E (*vide* Table 6, p. 34).

(G) 23 men were diagnosed by methods B and E (*vide* Table 7, p. 34).

(H) 3 men were diagnosed by methods B, C, and E (*vide* Table 8, p. 38).

(I) 65 men remained with positive Wassermann reactions in whom no direct evidence of syphilis was demonstrable (*vide* Table 9, p. 38).

V. THE EVIDENCE OF SYPHILIS OBTAINED IN THOSE CASES WHICH GAVE NEGATIVE WASSERMANN REACTIONS.

258 men gave negative reactions, and the following is the evidence of syphilis obtained :

(a) 127 men had sores which contained *S. pallidum* (*vide* Table 10, p. 42).

(b) 34 men had sores or scars of sores which had contained *S. pallidum* or had been diagnosed as syphilitic and had been treated (*vide* Table 11, p. 44).

(c) 5 men had sores in which *S. pallidum* was not found, but they subsequently developed syphilis (*vide* Table 12, p. 46).

(d) 1 man had manifest secondary syphilis (*vide* p. 14 *infra*).

(e) 2 men had manifest tertiary syphilis (*vide* p. 15).

(f) 2 men had cerebro-spinal syphilis (*vide* Table 13, p. 48).

Thus conclusive evidence of syphilis was obtained in 171 of the negative cases.

(g) 11 men had no active lesions or non-syphilitic lesions, but a definite history of syphilis (*vide* Table 14, p. 48).

It may be assumed that several of these were cured and no longer syphilitic.

No evidence of syphilis was obtained in the 76 remaining men who gave negative reactions. They may be classified as follows :

Non-syphilitic cases—23 men with sores which were not treated, but they did not develop syphilis (*vide* Table 15, p. 50).

Undiagnosed cases—45 men had similar conditions, but they did not come under observation again.

Doubtful cases—8 men were said to have syphilis, but no signs of syphilis were present.

VI. CASES OF SYPHILIS TO WHICH SPECIAL REFERENCE IS MADE IN THE TEXT.

The following is the only case of manifest secondary syphilis in which the Wassermann reaction was negative. It will be observed that the man was no longer in the acute stage, but the condition was partially resolved after mercurial treatment.

Case No. 254.

Infected 15th June, 1917.¹ Original lesion, sore on penis, treated with 'several mercurial inunctions' and black wash. Examination for *S. pallidum* on the 6th, 7th, and 9th November, 1917, negative. Physical examination on 29th November, 1917. Scars of sores on body of penis, prepuce, and glans. Marked general adenitis. Condylomata ani. Mucous patches on tonsils. Bubo right groin. W. R.² negative on 30th November, 1917, and

¹ Throughout this paper the probable date of infection refers to infection with syphilis if the man had syphilis. When a man has 'soft sores' or gonorrhoea with no evidence of syphilis, this date usually refers to infection with these non-syphilitic diseases.

² For explanation of symbols used in the text, *vide* p. 16.

on the 28th December, 1917. Treated with 0.9 gm. '914' on 29th November, 1917, on 3rd December, 1917, and on 3rd January, 1918. Lesions resolved.

We may also insert the following as a further example of this rare condition, although it does not come into the series under review.

Case No. 1658.

Infected March 1918. Never had a sore on penis. Rash first noticed in July. Treated with one small dose of Galyl on 23rd July. Examined 27th July, 1918. Very marked general adenitis. Fading discrete maculo-papular syphilide. Gonorrhoea and epididymitis. 2 lymphocytes and negative Wassermann reaction in the cerebro-spinal fluid. Treated with 2.7 grms. of '914' in 6 doses from 28th July to 13th August. A skin Herxheimer reaction and rise of temperature followed the first dose. On the 9th August the Wassermann reaction in the serum was negative. It had not been tested before. It was also negative on 6th September.

The following are the only two instances of negative reactions occurring in cases of manifest tertiary syphilis :

Case No. 46.

Infected in June 1917. Original signs not stated. On 17th September, 1917, the Wassermann reaction was positive; treated with 1.2 grms. Galyl from 3rd to 21st September. Examined 18th October, 1917. Deep gummatous ulcer inside right cheek. General adenitis. On 26th October, 1917, the Wassermann reaction was negative. Treated with 3.15 grms. '914' between 19th October and 4th November, 1917. Ulcer healed in 4 days. The Wassermann reaction was positive on 1st February, 1918.

Case No. 1271.

Infected in (?) 1911. Sore on glans penis. (?) Treatment. Examined 17th May, 1918. Ulcers on legs. Scars of abscesses on legs. Recent erosion at site of original sore on glans. On 17th May the Wassermann reaction was negative, but on 31st May it was positive. No arsenical treatment, but mercury was administered. Ulcers healed.

One further case, No. 1191, gave a negative reaction, but no manifest active lesions were present, only the scars of old lesions.

Case No. 1191.

Infected 1910. Sore on penis and sore throat followed by ulceration of the palate. Treated with mercury pills for two years. Examined 9th May, 1918. General adenitis. Soft palate destroyed by previous ulceration. Posterior pharyngeal wall scarred and perforated. Old iritis in left eye. 4 lymphocytes and a negative Wassermann reaction in the cerebro-spinal fluid. Treated with 2.7 grms. '914' between 10th and 25th May. On 17th May the Wassermann reaction was negative, but one week later it was positive (*vide* Table 14, p. 50).

VII. TABLES OF CASES TO ILLUSTRATE

TABLE 1. *Unselected Examples of Men with Positive Wassermann*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F.		
					Cells.	W.R.	Eyes.
766	8. 3.18	P	—	Large ulcer on body of penis L. Papular syphilide.	2	0	—
328	5. 1.18	P	P	Sore on prepuce L.	—	—	—
742	21. 1.18	P	—	Nil.	0	0	—
124	26.10.17	P	—	Nil.	—	—	—
140	13.11.17	P	—	Subpreputial scar. Marked general adenitis. Papular syphilide.	—	—	—
1018	12. 4.18	P	—	Scar of sore on prepuce R. Marked general adenitis.	2	0	—
1026	4. 4.18	P	—	Squamous papular and macular syphilide.	5	—	—
1410	14. 6.18	P	P	Balanitis. Erosions at edge of prepuce and on glans. Subpreputial warts. Early papular syphilide.	2	0	—
318	21.12.17	P	P	Indurated sore in sulcus R. Marked general adenitis. Macular syphilide. Chronic headache.	—	—	—

EXPLANATION OF THE TABLES.

'Unselected examples' are obtained by taking every second or tenth (or so forth) man in the alphabetical card index.

'Selected examples' are instances which illustrate a condition well.

When no remark is made about selection of examples, those quoted are every instance of the condition.

W.R. = Wassermann reaction.

P. = positive.

W.P. = weak positive.

V.W.P. = very weak positive.

D. = doubtful.

0. = negative.

— = no observation.

C.S.F. = cerebro-spinal fluid.

THE EVIDENCE OF SYPHILIS OBTAINED.

Reactions and Conclusive Evidence of Syphilis.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
—	20.12.17	Sore healed.	—	—
W.R. 0, 21.12.17. In 1913 circumcised for subpreputial sores. Rash. Three injections of '606' in 1913 at Haslar and 33 injections of Hg. Undoubted syphilis in 1915. One dose '914' 17.2.15, and two years Hg. W.R. W.P. 15.2.15; P. 11.10.16.	Nov. 1917 1913	Sore healed. —	— —	— —
—	Jan. 1915	—	—	—
—	Aug. 1917	Resolving. Relapse 24.1.18. Severe occipital headache and diplopia. Meningovascular syphilis; 786 Lymphocytes in C.S.F. and W.R. 4400.	6. 2.18 18. 3.18	P P
Sore on penis 1916. No treatment.	Aug. 1916	—	—	—
W.R. P. 25.2.17. Two doses '914' Feb.-Mar. 1917. Injections Hg. W.R. 0, 2.5.17.	Feb. 1917	Resolved.	—	—
—	6. 5.18	Lesions resolved.	—	—
—	? May 1917	All lesions healed. Headache gone.	—	—

EXPLANATION OF THE TABLES (*continued*).

The figure in the 'cells' column denotes the number of cells per cmm. in the cerebro-spinal fluid.

The figures in the W.R. column under C.S.F. denote the strength of the W.R. in the fluid. 4 = a complete positive result with the quantity of fluid referred to, thus 4400 = positive with the first two quantities and negative with the last two. Each quantity is $\frac{1}{2}$ of the preceding one. The largest is 0.8 cc. when using 0.5 cc. of a 5 per cent. suspension of deposited sheeps' corpuscles in the test.

'606' = a drug similar in composition to Salvarsan.

'914' = a drug similar to Neosalvarsan.

L. = left.

R. = right.

V. = ventrally.

Dsl. = dorsally.

After the 'diagnostic' W.R. and before the 'subsequent evidence' a course of treatment was administered unless there is a statement to the contrary.

TABLE 1. *Unselected Examples of Men with Positive Wassermann*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
604	15. 2.18	P	—	Multiple sores at edge of prepuce and round meatus. Mucous patches on tonsils. Condylomata ani. Papular syphilide.	8	0	—
269	7.12.17	P	—	Scars of sores in sulcus. Marked general adenitis.	—	—	—
289	7.12.17	P	—	Scar of sore on prepuce R. Macular syphilide. Mucous patches on tonsils and uvula.	—	—	—
569	8. 2.18	P	P	Sores on under-surface of prepuce.	2	0	—
1057	28. 7.17	P	—	Large healing Hunterian sore on under-surface of prepuce Dsl.	—	—	—
300	14.12.17	P	—	Scar of sore on glans Dsl. Coppery stain of syphilide. Mucous patches on both tonsils.	—	—	—
1524	5. 7.18	P	—	Scar of ulcer on prepuce L. Folliculo-macular syphilide.	4	0	—
293	23.10.17	P	P	Multiple sores on glans and in sulcus. Maculopapular syphilide.	4	0	—
313	20. 9.17	P	0	Sores on glans and under-surface of prepuce (both probably not syphilitic). Retinitis, R. and L. Gonorrhoea.	—	—	—
178	15.11.17	P	—	Indurated scar of sore in sulcus and on glans. Ulcer inside R. cheek.	—	—	—
999	13. 2.18	P	—	Nil.	2	0	—
981	12. 4.18	P	—	Indurated scars in sulcus R. Mucous patches on buccal mucous membrane. Early glossitis.	0	0	—
1312	14. 6.18	P	—	Internal ear deafness.	2	0	—
1477	28. 6.18	P	—	Scar of sore on corona L. Mucous patches on palate, anterior pillars of fauces and R. cheek.	6	0	—
74	15. 8.17	P	P	Sore on upper lip R. Marked general adenitis.	—	—	—
952	5. 4.18	P	P	Two eroded papules on glans R. Ulcer on R. side of scrotum. Maculopapular syphilide.	0	0	—
224	30.11.17	P	—	Multiple sores on prepuce. Condylomata. Ulceration of tonsils. Papular syphilide.	—	—	—

Reactions and Conclusive Evidence of Syphilis (continued).

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
—	4.10.17	Resolved.	10. 5.18	0
Sores on penis Nov. 1917. Treated with one dose '914'. W.R. P.	Aug. 1917	—	Jan, 1918	0
—	Nov. 1916	Resolved.	12. 7.18	V.W.P.
—	26.12.17	Healed.	—	—
One dose of Galyl 5 7.17.	21. 6.17	Healed.	17. 8.17 13. 9.17 12. 4.18 1. 7.18	P 0 0 W.P.
—	July 1917	No treatment.	—	—
—	Denied.	Resolved.	—	—
—	July 1917	Healed.	28.11.17 4. 1.18 18. 1.18 8. 2.18	0 P 0 P
—	Sept. 1916	Sores healed. Eyes un- changed.	2. 1.18	P
One dose of Galyl, 7.11.17.	Sept. 1917	Healed.	7.12.17	W.P.
Sore on penis in Nov. 1916. Treated with one dose '606'. W.R. P. Rash in Nov.1917. Hg injections.	Sept. 1916	—	—	—
Sore on penis in 1909. Treated with Hg.	May 1909	Improved.	—	—
Sore on penis in 1916. Three doses of Galyl in Nov. 1917. Four in- jections of Hg.	Oct. 1916 Oct. 1917	No change. Resolved.	— —	— —
—	?	Healed.	5. 9.17 1. 3.18 15. 3.18 7. 6.18	V.W.P. V.W.P. 0 0
—	Oct. 1917	Resolved.	—	—
—	5. 9.17	Resolved.	10. 5.18 12. 7.18	0 0

TABLE 1. *Unselected Examples of Men with Positive Wassermann*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
576	17. 9.17	P	P	Sores on pubes.	—	—	—
669	22. 2.18	P	P	Healing sore on glans Dsl. R.	3	0	—
728	12.12.17	P	—	Early glossitis.	2	0	—
977	22. 2.18	P	—	Scar of sore on prepuce L.	0	0	—
905	29. 3.18	P	—	Scar of sore on body of penis L. Follicular syphilide.	0	0	—
870	22. 3.18	P	P	Multiple sores on under-surface of prepuce Dsl. Marked general adenitis. Mucous patches on tonsils. Condylomata ani. Fading macular syphilide.	22	0	—
1144	3. 5.18	P	—	Indurated ulcer on edge of prepuce Dsl. Erosion on glans Dsl. Marked general adenitis. Macular syphilide.	2	0	—
624	15. 2.18	P	P	Indurated sore on under-surface of prepuce Dsl.	0	0	—
33	17.10.17	P	—	Nil.	—	—	—
1114	3. 5.18	P	P	Large sore on body of penis L.	0	0	—
555	1. 2.18	P	—	Scar of sore on penis V.	894	4000	P
806	14. 6.18	P	—	Nil.	0	0	—
1117	3. 5.18	P	—	Scars of multiple erosions on under-surface of prepuce. Papulo-squamous syphilide. Mucous patches on lips. Condylomata ani.	0	0	—
433	18. 1.18	P	P	Sore in sulcus L.	—	—	—
233	25.11.17	P	P	Two sores on under-surface of prepuce. Marked general adenitis. Diffuse papulo-squamous syphilide.	—	—	—
562	8. 2.18	P	—	Scars of old sores on glans. Marked general adenitis. Scarring of palate and R. tonsil. Healing syphiloderma on forearms.	0	0	—
275	30. 8.17	P	—	Sores at fraenum. Papulo-squamous syphilide.	—	—	—
840	8. 3.18	P	—	Chronic superficial glossitis.	42	0	P

Reactions and Conclusive Evidence of Syphilis (continued).

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date. Result.</i>	
—	? 7. 9.17	Healed.	25. 1.18	W.P.
—			17. 5.18	0
—			16. 8.18	0
Sore on penis, rash, and sore throat in 1909. Treated with Hg. for 3 years.	24.11.17 1909	Healed. Improved.	—	—
Sore on penis, rash, and sore throat. 'Black wash' to sore.	Oct. 1917	—	14. 6.18	0
Sore on body of penis L. Sore throat.	? 1906	Resolved.	—	—
—	Oct. 1917	Resolved.	—	—
—	1. 4.18	Resolved.	—	—
—	25.12.17	Healed.	—	—
Sore on penis, and rash.	Dec. 1916	—	4. 1.18	P
—			22. 2.18	P
—	3. 3.18	Healed.	10. 5.18	0
—			9. 8.18	0
Sore on penis at end of 1917, and rash. Treated with one dose of Galyl.	Sept. 1917	—	—	—
Rash on body. Treated with 6 injections of Galyl in 1916-17 and 27 injections of Hg.	Oct. 1916	—	—	—
Two doses of Galyl and Hg.	2. 2.18	Resolved.	—	—
—	2.11.17	—	19. 4.18	0
—			12. 7.18	0
—	3.11.17	Healed ; fading.	26. 4.18	0
One dose of Galyl in 1917 and two doses in 1918.	May 1903	—	—	—
—	July 1917	Fading ; healed.	26. 9.17	P
—			17.10.17	0
Sore on penis in 1893.	1893	Improved.	6. 9.18	P

TABLE 1. *Unselected Examples of Men with Positive Wassermann*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
768	30. 1.18	P	—	Nil.	84	0	—
13	31. 4.17	P	—	Large central perforation of soft palate. Gummatous excavation of tongue.	—	—	—
573	25. 1.18	P	0	Macular syphilide.	—	—	—
1454	1. 6.17	P	—	Scars of old sores on thighs and legs.	—	—	—
989	12. 4.18	P	—	No scars or sores on penis. Mucous patches on palate, tonsils, and buccal mucous membranes. Condylomata ani. Chronic glossitis. Discrete squamous papules on arms.	0	0	—
964	12. 4.18	P	—	Scar of sore in sulcus L. Scars of old rash on body.	1	0	P
753	8. 3.18	P	—	Drowsiness.	184	0	—
720	22. 2.18	P	—	Gummatous syphiloderma of groin and thigh L.	4	0	—
461	25. 1.18	P	P	Indurated ulcer on corona to L. of fraenum. Marked inguinal adenitis.	—	—	—
1519	5. 7.18	P	—	Two healing ulcers on glans around meatus. Fading maculo-squamous syphilide.	20	0	—
767	6. 3.18	P	—	Marked general adenitis.	132	0	—
353	2. 1.18	P	0	Indurated sore on under-surface of prepuce. Macular syphilide.	—	—	—
6	18.10.17	P	—	Scars of sores on body of penis. Ulceration of L. tonsil.	—	—	—
1450	21. 6.17	P	—	Scar on edge of prepuce R.V. Ulceration of soft palate and uvula.	0	0	—
113	10 11.17	P	—	Serpiginous syphilide.	—	—	—
962	15. 3.18	P	P	Large ulcer on prepuce L.	—	—	—
791	15. 3.18	P	P	Sore at fraenum and in sulcus R.	2	0	—
874	15. 3.18	P	0	Two eroded papules on under-surface of prepuce. Macular syphilide.	28	0	—
447	18. 1.18	P	—	Three sores on glans R. Marked general adenitis. Maculo-papular syphilide.	—	—	—
1407	26. 4.18	P	—	Scars of sores at root of penis. Septic torn fraenum. Macular syphilide.	58	0000	P
1121	3. 5.18	P	P	Indurated ulcer in sulcus L.	4	0	—
88	24.10.17	P	—	Scars of ulcers on legs. General adenitis.	—	—	—

Reactions and Conclusive Evidence of Syphilis (continued).

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis. Effect of Treatment and Relapses.</i>	<i>Further W.R. Date. Result.</i>
Sore on penis, and rash in 1903.	1903	—	—
—	? 1900	Healed.	9. 6.17 P
Three doses of Galyl in 1917.	Sept. 1916	Resolved.	—
Three injections. of (?) '606' in 1916.	1901 or 1902	—	6. 7.17 P
—	?	Resolved.	31. 5.18 P
Sore on penis, rash and sore throat in 1904.	1904	—	—
Sore on penis, and rash. Treated with four injections of Galyl.	Jan. 1917	Recovered.	4. 4.18 V.W.P. 0
—	Denied	Healed.	—
—	Nov. 1917 to Jan. 1918	Healed.	—
Sore on penis, 1916. Circumcised. No treatment.	? 1916 or 20. 3.18	Healed. Resolved.	—
Sore on penis, 1913.	Oct. 1913	—	—
—	Nov. 1917	Healed. Resolved.	17. 5.18 P 30. 8.18 0
Two doses of Galyl, Oct. 1917.	Sept. 1917	L. tonsil healed with much scarring.	18. 1.18 0 17. 5.18 0 9. 8. 8 0
'Discharge from penis' 1902.	1902	Healed.	—
—	1897	Resolved.	—
—	Dec. 1917	Healed.	—
—	11. 2.18	Healed.	—
—	1. 3.18	Resolved.	—
—	10.11.17	Healed. Resolving.	—
—	Mar. 1918	Resolved.	19. 7.18 0
One dose of Galyl, Apr. 1918.	26. 2.18	Healed.	—
—	1907	—	19. 4.18 P

TABLE 1. *Unselected Examples of Men with Positive Wassermann*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
666	22. 2.18	P	P	Subpreputial sore at fraenum.	5	0	—
445	1. 2.18	W.P.	—	Irregular ulcer on R. side of palate. Ulceration of mucous membrane of R. cheek.	—	—	—
451	10. 9.17	P	P	Excavated indurated ulcer at root of penis R. Macular syphilide.	—	—	—
1002	19. 4.18	P	—	Scar of Hunterian sore in sulcus R.Dsl. Marked general adenitis. Mucous patch on gum. Papulo-macular syphilide.	2	0	—
1830	14. 6.17	P	—	Sore on penis. Syphilide.	—	—	—
292	24.10.17	P	P	Subpreputial sore.	4	0	—
1464	21. 6.18	P	P	Ulcer at meatus. Discrete papular syphilide.	2	0	—
899	29. 3.18	P	P	Hunterian sore, subpreputial R.Dsl.	0	0	—
804	31. 8.17	P	—	Scar of sore on prepuce R. Macular syphilide.	—	—	—
1124	3. 5.18	P	0	Large ulcer on L. tonsil. Hyperplasia and shedding of buccal mucous membrane.	1	0	—
702	9. 9.17	P	P	Sore on corona Dsl.L.	—	—	—
852	27. 3.18	P	—	Papule on body of penis R.V. Ulcers on tonsils and posterior wall of pharynx. Condylomata ani.	0	0	—
775	15. 3.18	P	P	Hunterian sore in sulcus R.	0	0	—
889	29. 3.18	P	0	Two indurated ulcers on body of penis L.Dsl. and one at base of penis L. Papular syphilide.	2	0	—
1056	26. 4.18	P	—	Scar of sore at fraenum. Paralysis of L. 7th nerve.	56	4400	P
320	21.12.17	P	—	Scar of recent sore on body of penis V. Marked general adenitis. Macular syphilide. Condylomata.	—	—	—
641	9. 2.18	P	—	Keratitis and iridocyclitis R.	—	—	—
827	15. 3.18	P	P	Two sores on body of penis R. Subpreputial sores R. Folliculo-papular syphilide. Condylomata ani.	6	0	—
1323	31. 5.18	P	—	Two ulcers on prepuce R. and L. Erosions in sulcus and on glans. Papulo-macular syphilide.	2	0	—

Reactions and Conclusive Evidence of Syphilis (continued).

Previous Evidence of Syphilis.	Probable Infection. Date.	Subsequent Evidence of Syphilis.		
		Effect of Treatment and Relapses.	Further W.R. Date.	Result.
—	15.12.17	Healed.	—	—
Four doses '914', Jan. 1918.	Denied	Healed.	—	—
—	Aug. 1917	Healed. Resolved.	11. 1.18 5. 4.18	0 0
<i>S. pallidum</i> present.	10. 1.18	Resolving.	—	—
—	17. 5.17	Healed. Resolved	6. 7.17 3. 8.17 21. 9.17 8. 8.18 6. 9.18 25. 1.18	P P 0 D 0 0
—	Denied	Healed.	—	—
—	10. 4.18	Healed. Resolved.	—	—
—	22. 2.18	Healed.	21. 6.18	0
Sore on prepuce.	15. 7.17	Resolved.	2.12.17 22. 2.18 V.W.P. 9. 8.18	0 0 0
None.	Denied	Healed. Resolved.	—	—
—	June 1917	Healed.	8. 2.18 15. 3.18	0 0
—	Denied	Resolved.	9. 8.18	0
—	Jan. 1918	Healed.	—	—
—	15.12.17	Healed. Resolving.	—	—
Sore on penis.	14.11.17	No change.	—	—
—	Oct. 1917	Resolved.	—	—
—	Denied	—	—	—
Treated with two injections of Hg.	20.12.17	Healed. Resolved.	—	—
—	9. 5.18	—	—	—

TABLE 1. *Unselected Examples of Men with Positive Wassermann*

Ref. No.	W.R.		<i>Present Evidence of Syphilis.</i>				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
741	8. 3.18	P	P	Septic sore at fraenum.	2	0	—
51	29.10.17	P	—	Ulcer on leg L.	—	—	—
399	11. 1.18	P	P	Healing sore in sulcus L.	—	—	—
1798	14. 2.17	P	P	Acquired phimosis. Balanitis. Subpreputial sores. Circumcised.	—	—	—
1140	26. 4.18	P	—	R. tonsil scarred.	5	0	—
865	22. 3.18	P	—	Indurated almost healed sore in sulcus Dsl.R. Condylomata ani. Tonsils ulcerated.	2	0	—
918	29. 3.18	P	P	Scabbed-over ulcer round meatus. Irido-cyclitis L.	0	0	—
1324	17. 5.18	P	—	Nil.	8	0	—
232	30.11.17	P	0	Oval healing ulcer R. thumb. No history of injury. Sore in sulcus. Maculo-papular syphilide.	—	—	—
914	22. 3.18	P	—	Early Glossitis.	2	0	—

TABLE 2. *Unselected Examples of Men with Positive Wassermann for Local*

Ref. No.	W.R.		<i>Present Evidence of Syphilis.</i>				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
678	22. 2.18	P	—	Scar of old sore on body of penis Dsl., also round meatus.	2	0	—
1356	10. 5.18	P	—	Scar of sore on under-surface of prepuce, R.	0	0	—
998	12. 4.18	P	—	Phimosis. Induration of under-surface of prepuce. Large septic sore on under-surface of prepuce, V.R.	2	0	—

Reactions and Conclusive Evidence of Syphilis (continued).

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
—	25.12.17	Healed.	—	—
Sept. 1915 W.R. P. Had two doses of '606' in Jan. and Feb. 1916. Refused treatment before. W.R. 0, 5.11.16.	June 1915	Healed.	8. 3.18	P
Two doses of Galyl in Dec. 1917.	20.10.17	Healed.	17. 5.18	0
—	1. 1.17	Healed.	5. 5.17 1. 9.17 9. 8.18	P 0 0
Had three doses of Galyl in July and Aug. 1917, and 18 injections of Hg. Sore on penis, rash, and sore throat.	14. 4.17	—	—	—
<i>S. pallidum</i> P, 6.1.18.	15.11.17	Healed.	9. 8.18	0
—	28. 1.18	Healed. Resolved.	—	—
Gonorrhoea in 1912 followed by sore on penis and sore throat. Hg for two years.	1912	—	—	—
—	3.10.17	Healed. Resolved.	22. 3.18 7. 6.18]	0 0
Circumcised for subpreputial sore. Lump in L. groin, 1908. Recent tonsillitis. Hg pills for 18 months from 1908.	1908	Tongue resolved.	—	—

Reactions who had been Diagnosed as Syphilis and Treated Lesions Outside.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
Sore on body of penis 1896, and around meatus in 1911. One dose of Galyl in Sept. 1917 and continuous Hg.	1896 or Jan. 1911	—	—	—
Sore on penis, Dec. 1917. 'Black Wash' and Hg pills for three months.	Nov. 1917	—	9. 8.18	0
Hg pills and local antiseptics.	Feb. 1918	Healed.	—	—

TABLE 2. *Unselected Examples of Men with Positive Wassermann for Local Lesions*

Ref. No.	W.R.		<i>Present Evidence of Syphilis.</i>				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
132	2.11.17	P	—	Scar in sulcus.	2	0	—
1162	19. 4.18	P	—	General adenitis.	3	0	—
1091	3. 5.18	W.P.	0	Pigmented scar of sore (1916) on body of penis Dsl.R. Indurated sore in sulcus R.	0	0	—
153	9.11.17	P	—	Sore on under-surface of prepuce.	—	—	—
470	6. 7.17	P	—	Indolent soft sore on R. margin of prepuce.	—	—	—
1198	3. 5.18	P	—	Scar of sore on glans L. (1909). Septic ulcer at root of penis extending on to scrotum.	4	0	—
374	11. 8.18	P	—	Scar of sore on prepuce.	—	—	—
657	6. 2.18	P	—	Scar of sore on body of penis.	2	0	—
700	9. 9.17	P	—	Scar of sore on penis V.	—	—	—
1078	3. 5.18	P	—	Oedematous slit prepuce. Healing ulcer on corona, Dsl.L.	4	0	—
118	6.10.17	W.P.	—	Scars of multiple recent sores in sulcus.	—	—	—
191	19.11.17	P	—	Healing sore at fraenum.	—	—	—
1065	19. 4.18	P	—	Scar of sore on body of penis, R. Scar of sore on glans.	4	0	—
206	5. 5.17	P	—	General adenitis.	—	—	—
48	27.10.17	P	—	Sore on prepuce.	—	—	—
925	23. 3.18	P	—	Indurated scar of recent sore in sulcus R.	2	0	—
309	23.11.17	P	—	Scar of 'plaque' sore under prepuce Dsl.	—	—	—

Reactions who had been Diagnosed as Syphilis and Treated Outside (continued).

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
Sore on penis in 1910, treated with Hg for three months.	1910	—	—	—
Sore on penis, Feb. 1918. Treated with one dose of Galyl and five injections of Hg.	28. 1.18	—	6. 7.18	0
Sore on penis in July 1916, treated with one dose of Galyl and three injections of Hg.	1916 or last three months.	Healed.	—	—
One dose of Galyl nine days ago.	10. 9.17	Healed.	—	—
One dose of Galyl, 1.7.17, and Hg.	5. 5.17	Healed.	11. 8.17 13. 9.17 12. 4.18	0 0 0
Two doses of '606' in Jan. 1912 for sore on penis. Also had a sore in 1909.	1909 or 1912	Healed.	—	—
In July-Aug. 1916 two doses of '606'.	June 1916	—	—	—
Sore treated with one dose of Galyl and one injection of Hg.	9.12.17	—	—	—
Sore on penis treated with three doses of Galyl and Hg injections.	26. 6.15	—	—	—
Balanitis, phimosis. Prepuce slit, 10.4.18. One dose of Galyl same day.	2. 3.18	Healed.	—	—
Sores in sulcus. Two doses of Galyl in Oct. 1917.	Sept. 1917	—	8. 2.18	0
One dose of Galyl, 26.10.17.	28. 9.17	Healed.	8. 2.18	0
Sores on body of penis ten years ago. Sore in Feb. 1918 treated with eight injections of Hg.	Jan. 1918 or 1908	—	—	—
Sore on penis and buboes. One dose of '606' in Apr. 1917.	Dec. 1916	—	5.12.17	0
Three doses '914' in Oct. 1917.	Aug. 1917	Healed.	25. 1.18	0
Lot. Nigra to sore. Two injections of Hg.	19. 2.18	—	—	—
Sore on penis, one dose of Galyl Dec. 1917.	Oct. 1917	—	—	—

TABLE 3. *Men with Positive Wassermann Reactions who were*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
1009	19. 4.18	P	—	Subpreputial warts.	36	0	—
1135	3. 5.18	W.P.	—	Indurated scars of small ulcers in sulcus and on under-surface of prepuce.	476	0	P
1130	3. 5.18	P	0	Indurated ulcer on under-surface of prepuce Dsl.	18	4 - -	—
1170	3. 5.18	P	—	Faint scar in sulcus R.	0	0	P
1261	17. 5.18	P	—	Phimosis.	18	0	—
1223	17. 5.18	P	—	Indurated scar of sore in sulcus Dsl. R. Scar to R. of fraenum.	22	0	—
947	29. 3.18	P	—	Buboes R. and L. General adenitis. No sore on penis.	14	—	—
1636	19. 7.18	P	—	Nil.	14	4 - -	—
620	8. 2.18	P	—	Scar of recent sore, body of penis L. Scar of old sore on glans to R. of meatus.	128	4400	—
1163	3. 5.18	P	—	Nil.	10	0	—
1064	19. 4.18	P	—	Headaches for 4 months. Insomnia. Memory for recent events bad.	16	0	P
1159	3. 5.18	P	—	Scar of sore on prepuce Dsl.	2	4 - -	—
1500	28. 6.18	P	—	Nil. Neurasthenia.	10	0	—
1360	7. 6.18	P	—	Scar of sore on prepuce Dsl. (1917). Phimosis, balanitis, excoriations on edge of prepuce.	12	0	—
1501	14. 6.18	P	—	Nil. Gonorrhoea.	2	0	P
1371	31. 5.18	P	—	Excavating ulcer in sulcus R.	20	0	—

TABLE 4. *Men with Positive Wassermann Reactions who had as Syphilis and Treated*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
1290	31. 5.18	P	—	Scars of papules and erosions on glans and on under-surface of prepuce.	8	0	—
1137	26. 4.18	P	—	Dizziness and attacks of unconsciousness since Sept. 1917.	92	4400	—
1382	7. 6.18	P	—	Scars of two recent sores on body of penis R.	22	0	0
1084	19. 4.18	P	—	Nil.	170	4400	P
1471	21. 6.18	P	—	Scar of flat ulcer on glans Dsl.	292	0000	—

shown to have Disease of the Central Nervous System only.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>	
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date. Result.</i>
—	20. 3.18	Healed.	—
Local antiseptics to sores. <i>S. pallidum</i> 0.	Dec. 1917	—	10. 5.18 0
Local antiseptics to ulcer.	?	Healed.	—
Sore on penis in 1899.	? 1899	—	—
—	Apr. 1918	—	—
—	4. 3.18	—	—
—	28. 1.18	—	—
Gonorrhoea 1903.	? 1903	—	—
Sore on penis in 1913, another in Aug. 1917.	? 1913 or Aug. 1917	—	—
Swellings at anus. (? Con- dylomata.)	25.12.17	—	9. 8.18 0
—	Denied	—	—
Sore on penis, 1914.	1914	—	—
Sore on penis, 1915.	Mar. 1915	—	—
Sore on penis twelve months ago.	1917 or 1. 5.18	Healed.	—
Gonorrhoea Feb. 1917.	? Feb. 1917	—	—
Local antiseptics to sore.	20. 3.18	Healed.	—

Disease of the Central Nervous System and had been Diagnosed for Local Lesions Outside.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>	
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date. Result.</i>
Sore on penis Sept. 1916. One dose of Galyl in Apr. 1917. Six doses of '914' Apr. 1918.	? Sept. 1916	—	—
Three doses of Galyl in Feb.-Mar. 1918. Sore on penis, 1907.	1907	Improved.	—
Sores treated with two doses of Galyl.	5. 3.18	—	—
Sore on penis, 1914. Three doses of Galyl in 1915. Three years Hg.	Sept. 1914	—	—
Two doses of Galyl May 1918, and inunctions of Hg.	14. 2.18	—	—

TABLE 5. *Unselected Examples of Men with Positive Wassermann*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
973	12. 4.18	P	—	No sores found. General adenitis. Doubtful fading macules.	2	0	—
745	8. 3.18	P	0	Irregular ulcer at root of penis Dsl. Inflamed bubo L. groin. General adenitis.	—	—	—
901	1. 3.18	P	—	Indurated scar of recent sore on edge of prepuce L.	—	—	—
811	10. 7.17	P	—	Sore on penis.	—	—	—
28	30. 8.17	P	0	Sores on under-surface of prepuce.	—	—	—
486	21.12.17	P	—	Nil.	6	0	—
130	21. 7.17	P	—	Scar on under-surface of prepuce.	—	—	—
59	19.10.17	P	—	Healed sore on prepuce.	—	—	—
5	9.10.17	P	0	Sore on body of penis.	—	—	—
250	29.10.17	P	—	Nil.	2	0	—
358	21.12.17	P	—	No sore on penis. Bubo.	—	—	—
121	23.11.17	P	—	Scar of old sore on prepuce. Scar of recent sore in sulcus.	—	—	—
76	31.10.17	P	—	Scar of sore in sulcus. Scars of ulcers on legs.	—	—	—
38	2.11.17	P	—	Gonorrhoea.	—	—	—
1049	26. 4.18	P	—	Scar of sore at meatus.	4	0	—
1306	22. 6.17	P	—	Scar of sore in sulcus. Scar of ulcer L. gum.	—	—	—
884	8. 6.17	P	—	Scar of sore on corona.	—	—	—
1442	21. 6.18	P	—	Two septic ulcers at torn fraenum. Scar of old sore on glans R. General adenitis.	—	—	—
893	25. 5.17	P	—	Recently circumcised.	—	—	—
1315	2.11.17	P	—	Scar of old sore on prepuce. Gonorrhoea.	—	—	—

Reactions who had a Similar Reaction Previously or Subsequently.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further Date.</i>	<i>W.R. Result.</i>
24.11.17 W.R. P.	?	—	5. 7.18	0
—	Feb. 1918	Healed.	21. 6.18	P
Sore on penis. Local antiseptics. W.R. V.W.P. 22.2.18.	Dec. 1917	—	12. 7.18	0
—	26. 6.17	Healed.	24. 8.17	P
			30. 9.17	0
			1. 3.18	0
			31. 5.18	0
Local antiseptics.	? May 1917	Healed.	11. 9.17	P
—	1908	—	23.10.17	0
—	? 1912	W.R. relapsed in Mar. 1918.	31. 5.18	P
—	27. 9.17	—	16.11.17	0
—	Aug. 1917	Healed.	1. 3.18	P
Sore on penis.	1906	—	1. 2.18	P
W.R. P., 8.12.17.	Oct. 1917	—	26. 4.18	P
Sore on penis, 1913.	? 1913 or	—	1. 2.18	P
W.R. P., 1.11.17.	Oct. 1917	—	26. 4.18	P
—	Mar. 1913	—	1. 2.18 V.W.P.	—
—	1912	—	22. 3.18	P
Sore on penis, 1903.	1903	—	14. 2.18	P
W.R. P., Apr. 1918.		—	—	—
Sore on penis, Apr. 1917.	Feb. or Mar. 1917	—	28. 7.17	P
Sore on penis.	Apr. 1916	—	10. 5.18	0
			13. 7.17	P
			28. 7.17 V.W.P.	—
			17. 8.17	0
			30.11.17	0
			8. 3.18	0
			7. 6.18	0
			30. 8.18	0
Gonorrhoea. Sore on penis, 1912. W.R. P., 2.6.18.	1912 or 4. 5.18	Healed.	—	—
Subpreputial sore. <i>S. pallidum</i> 0, 5.5.17.	20. 3.17	—	14. 9.17	P
			21.12.17	0
			22. 3.18	0
			19. 7.18	0
Penile sore.	1907	—	17. 5.18	P

TABLE 6. *Men with Positive Wassermann Reactions who were had Positive Wassermann Reactions*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
1090	26. 4.18	P	—	Nil.	14	0	—
627	8. 2.18	P	—	Nil.	14	4 ---	0
1281	17. 5.18	P	—	Scars of papules on glans.	12	4 ---	P
619	8. 2.18	P	—	Gonorrhoea. General adenitis.	156	4400	P

TABLE 7. *Men with Positive Wassermann Reactions who had been who, further, had Positive Reactions*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
17	29. 8.17	P	—	Scar of sore on front of scrotum. General adenitis.	—	—	—
1105	26. 4.18	P	—	Scar of sore on glans R.	0	0	—
1302	19. 9.17	P	—	Nil.	0	0	—
265	20.10.17	P	—	Scar of sore on under-surface of prepuce.	—	—	—
302	7.12.17	P	—	Nil.	—	—	—
423	18. 1.18	P	—	Healing sores in sulcus at fraenum.	—	—	—
1385	14. 6.18	P	—	Nil.	0	0	—
891	26. 4.17	P	—	Nil.	—	—	—
452	29. 9.17	W.P.	—	Nil.	—	—	—
983	5. 4.18	P	—	Nil.	0	0	—
1441	23. 6.18	V.W.P	—	Scar of sore (1913) on glans R.	4	0	—

shown to have Disease of the Central Nervous System and who Previously or Subsequently.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
Sore on glans, Jan. 1918.	? Nov. 1917	—	30. 7.18	P
W.R. P., 16.4.18.				
Gonorrhoea 1914.	Denied	—	12. 4.18	V.W.P.
—	10. 3.18	—	26. 7.18	P
Sore on penis.	May 1917	—	7. 6.18	P

Diagnosed as Syphilis and Treated for Local Lesions Outside and Previously or Subsequently.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
Sore on scrotum in 1915.	Dec. 1914	—	23.10.17	P
Had two doses of Galyl in June-July 1917.				
14.12.17, W.R. P. One dose of Galyl and 18 injections of Hg: 5.3.18. W.R. P.	2. 8.17	—	26. 7.18	0
Sore on penis in 1916, treated with Hg injections.	16. 7.16	—	21.12.17	P
			10. 5.18	P
Sore on under-surface of prepuce treated with two doses of Galyl and Hg.	Mar. 1916	—	14. 2.18	P
			17. 5.18	0
			9. 8.18	0
Had four doses of Galyl from Dec. 1916 to Jan. 1917 and Hg irregularly.	Nov. 1916	—	22.12.17	P
In Dec. 1917 three doses of '606'. W.R. P.	Oct. 1917	Healed.	—	—
Balanitis. W.R. P.	26. 4.18	—	—	—
28.5.18. Treated with one dose of Galyl.				
Sore on penis about 14. 2.17. Treated with one dose of Galyl.	?	—	29. 7.17	P
			11. 8.17	0
July 1917 sore on penis, treated with three doses of Galyl.	May 1917	—	22. 3.18	V.W.P.
			11. 1.18	V.W.P.
Sore on penis, 1907, treated with one dose of '606' in 1909 and three years Hg. W.R. P., 19.2.18.	1907	—	—	—
Sore on penis in 1913 and Apr. 1918, the latter treated with one dose of Galyl and Hg. W.R. P., 10.4.18.	1913 or 1918	—	19. 7.18	W.P.

TABLE 7. *Men with Positive Wassermann Reactions who had been and who, further, had Positive Reactions*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
31	24.10.17	P	—	Scar at fraenum.	—	—	—
306	23.11.17	P	—	Scars of sores in sulcus L. and on under-surface of prepuce. Gonorrhoea.	—	—	—
184	18.11.17	W.P.	—	Phimosis. Subpreputial sore.	—	—	—
1182	3. 5.18	P	0	Scars of sores on body of penis Dsl.L. and one large ulcer on penis (1914). Deep healing ulcer on corona and in sulcus R. Small ulcers to R. of fraenum. Two patches of scaly dermatitis to L. of base of penis.	0	0	—
298	11. 2.18	V.W.P	—	Faint scar of sore on prepuce Dsl.	6	0	—
1402	28. 6.18	P	0	Indurated ulcer in sulcus R. Smaller ulcer on under-surface of prepuce L. Inguinal glands much enlarged.	4	0	—
1120	3. 5.18	V.W.P.	—	Nil.	0	0	—
501	18. 4.17	P	—	Ulcerative stomatitis.	—	—	—
1397	14. 6.18	P	—	Scar of recent sore on prepuce near edge Dsl. General adenitis.	—	—	—
2368	31. 8.17	P	—	Scar of sore on glans Dsl. near corona.	—	—	—
144	27.10.17	P	—	Nil.	2	0	—
1006	19. 4.18	W.P.	—	General adenitis. Albuminuria.	10	0	—

Diagnosed as Syphilis and Treated for Local Lesions Outside Previously or Subsequently (continued).

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date. Result.</i>	
Sore on penis, 1911. Treated with two doses of '606' in 1914.	Feb. 1911	—	24.11.17	P
Sores on penis, 1907. Treated by Hg for four months.	1907	—	1. 3.18	P
W.R. 0, 6.11.17. One dose of '606', 12.11.17.	Sept. 1917	Healed.	8. 2.18	P
Sore on penis 1914, and ulcer on pubis. Two doses of '914' Jan. 1915.	? 1914 or 4. 1.18	Healed.	9. 8.18	W.P.
Sore on penis, 1916. Three doses of Galyl in June and July 1916. Two doses of '914' in Nov. 1917. W.R. P., Apr. and Oct. 1917.	Feb. 1916	—	8. 2.18 22. 2.18 10. 4.18	0 P P
W.R. 0, 14.6.18, and W.P. 21.6.18. 'Black Wash' and Hg pills.	12. 5.18	Healed.	—	—
Gonorrhoea in Dec. 1914. 'Slight chafe' of penis in Feb. 1917. W.R. P., Nov. 1917. Three doses of Galyl.	? Feb. 1917	—	—	—
W.R. P., May and June 1916. Had three doses of '606' and Hg.	May 1915	Healed.	17.10.17 18. 1.18 17. 5.18	0 0 0
Sore on penis, Mar. 1917. Treated with five injections of '914'. W.R. P., 1917.	25. 4.18	—	—	—
Sore on glans. Treated with four doses of Galyl in 1917 and ten injections of Hg.	Oct. 1916	—	14. 9.17 15. 3.18	P 0
Penile sore. Six doses '914' Jan.-Aug. 1917. W.R. P. on 7.2.17, 28.4.17, 1.6.17. W.R. 0, 14.7.17.	Nov. 1916	—	8. 3.18	P
Penile sore. W.R. P., 26.12.17. Hg pills since Dec. 1917.	Nov. 1917	—	19. 7.18	0

TABLE 8.

Men with Positive Wassermann Reactions who were shown to have and Treated for Local Lesions Outside and who had

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F.		Eyes.
520	1. 2.18	P	—	Nil.	107	4440	P
664	22. 2.18	P	—	Scar of sore at fraenum.	11	0	—
1177	3. 5.18	P	—	Scars of papules on glans.	182	4400	—

TABLE 9. *Unselected Examples of Men with Positive Wassermann*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F.		Eyes.
52	16.10.17	P	—	Subpreputial scar.	—	—	—
1152	3. 5.18	P	—	General adenitis. Gonorrhoea.	0	0	—
429	9. 1.18	P	—	Adenitis of neck, groins, and axillae. Gonorrhoea.	—	—	—
764	10. 8.17	P	—	Intra-meatal sore. Balanitis. Gonorrhoea. Inguinal adenitis.	—	—	—
1284	31. 5.18	P	0	Sore on edge of prepuce L. General adenitis. Gonorrhoea.	2	0	—
1150	3. 5.18	P	—	Gonorrhoea. Epididymitis R.	4	0	—
1476	7. 6.18	P	—	Healing sore to L. of fraenum. Bubo L. groin.	2	0	—
170	13.10.17	P	0	Sore in coronal sulcus. Scar of old sore on body of penis. General adenitis.	—	—	—
497	16. 5.17	P	0	Sore on penis. General adenitis.	—	—	—
1702	15. 8.17	P	0	Indurated ulcer on body of penis, L. General adenitis.	—	—	—
988	12. 4.18	P	—	Multiple sores on prepuce. One large ulcer on body of penis, V. General adenitis.	0	—	0
230	23.11.17	P	0	Sores on under-surface of prepuce. Phimosia. Balanitis. General adenitis.	—	—	—
348	3. 1.18	P	0	Circular sores on glans R. General adenitis. Gonorrhoea.	—	—	—

Disease of the Central Nervous System, who had been Diagnosed Positive Wassermann Reactions Previously or Subsequently.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
Sore on penis in 1916 treated with two doses of Galyl and one of '914'. W.R. P., 4.6.17.	May 1916	—	31. 5.18 16. 8.18	0 0
Sore on penis, W.R. P., Oct. 1916. One dose of Galyl Nov. 1916, and Hg ever since.	13. 7.16	—	—	—
Sore on penis, 1916. Hg for three months.	May 1916	—	9. 8.18	P

Reactions in whom no Direct Evidence of Syphilis was found.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
Sore on penis in May 1917.	15. 4.17	—	—	—
'Chancroid' in 1915.	July 1915	—	—	—
—	?	—	—	—
—	June 1917.	Healed.	8. 3.18	0
'Black Wash' to sore. W.R. 0, 16.5.18.	30. 4.18	Healed.	16. 8.18	0
—	Denied	—	—	—
—	28. 3.18	Healed.	—	—
Sore on body of penis in 1912.	1912 or 1.10.17	Healed.	—	—
W.R. 0 on 2.5.17. Local antiseptics.	29. 2.17	Healed.	22. 7.17 18. 1.18	0 0
Antiseptic to sore.	15. 8.17	Healed.	26. 7.18	0
—	25. 2.18	Healed.	—	—
—	1.10.17	Healed.	5. 4.18 6. 7.18	0 0
Local antiseptics.	1.11.17	Healed.	3. 5.18	0

TABLE 9.

Unselected Examples of Men with Positive Wassermann Reactions

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
146	24.10.17	P	0	Indurated sores on under- surface of prepuce. In- guinal and cervical ade- nitis.	—	—	—
1109	26. 4.18	P	0	Concave ulcer on glans Dsl.	—	—	—
1276	17. 5.18	P	—	Nil.	—	—	—
1357	24. 5.18	P	0	Large oval ulcer on pre- puce R. No adenitis.	0	0	—
1495	21. 6.18	P	—	Dry papules on glans.	2	0	—
199	21.11.17	P	—	Indurated papule on glans to R. of meatus. Indu- rated scar of small ulcer in sulcus L. General adenitis. Urethritis, and bubo L.	—	—	—
1129	3. 5.18	P	—	Indurated scar of ulcer, edge of prepuce Dsl.	0	0	—
1149	3. 5.18	P	—	Gonorrhoea and epididy- mitis.	4	0	—
599	8. 2.18	P	0	Multiple soft sores on and under prepuce. General adenitis.	2	0	—
1296	19. 7.18	P	—	Soft sores on edge of pre- puce. Acquired phimo- sis, induration under prepuce.	2	0	—
1213	3. 5.18	P	—	Scar of non-indurated ulcer on prepuce Dsl.R. Scars of inguinal buboes (1893).	2	0	—
648	15. 2.18	P	—	Gonorrhoea.	2	—	—
304	29. 8.17	P	—	Scar of sore on penis L.	—	—	—
107	9.11.17	P	—	Two sores in sulcus. Gene- ral adenitis.	—	—	—
151	5.10.17	P	0	Sore on glans Dsl. General adenitis. Gonorrhoea.	—	—	—
1160	3. 5.18	P	—	Gonorrhoea and epididy- mitis R.	0	0	—
970	5. 4.18	W.P.	0	Indurated sore at torn fraenum. Inguinal bu- boes R. and L., and general adenitis.	2	0	—
24	10.10.17	P	—	Gonorrhoea. General ade- nitis.	—	—	—
1259	10. 5.18	P	0	Indurated ulcer on front of scrotum R. Gonor- rhoea.	—	—	—

in whom no Direct Evidence of Syphilis was found (continued).

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
Local antiseptics to sores.	Aug. 1917	Healed.	18. 1.18 5. 4.18	0 0
Local antiseptic. W.R. 0 on 19.4.18.	2. 3.18	Healed.	—	—
Gonorrhoea in 1917.	July 1917	—	—	—
Local antiseptics.	Apr. 1918	Healed.	—	—
Sores on penis circumcised. Buboës, 1916.	Dec. 1916	—	—	—
Gonorrhoea in 1913. W.R. 0, 7.11.17.	6.10.17	Resolved.	—	—
—	20. 2.18	—	—	—
No history of any previous venereal disease.	? 19. 3.18	—	—	—
—	12. 1.18	Not healed.	—	—
Indurated subpreputial sores in sulcus Dsl.L. and at fraenum. <i>S. pall.</i> 0, May 1918. Four W.R. tests 0, in May and June.	1. 5.18	—	—	—
Sore on penis. Bilateral inguinal buboës in 1893.	1893	—	—	—
Gonorrhoea and Epididymitis Jan. 1918.	? Jan. 1918	—	10. 5.18 9. 8.18	0 0
Sore on penis L.	1912	—	24.10.17	0
—	20.10.17	Healed.	—	—
'Black wash' to sore. W.R. 0, 5.9.17.	29. 8.17	Healed.	2.11.17 3. 5.18 26. 7.18	0 0 0
—	? 2. 3.18	—	13. 9.18	0
—	5. 3.18	Healed.	26. 7.18	0
—	Denied	—	—	—
—	8. 4.18	Healed.	5. 7.18	0

TABLE 10.

Selected Examples of Men with Sores which were found to contain

Ref. No.	W.R.		<i>S. pall.</i>	<i>Present Evidence of Syphilis.</i>			
	Date.	Result.		Clinical.	C.S.F. Cells.	W.R.	Eyes.
1499	5. 7.18	0	P	Multiple healing ulcers in coronal sulcus.	2	0	—
875	22. 3.18	0	P	Indurated sores on either side of fraenum.	4	0	—
347	5. 1.18	0	P	Meatal sore.	—	—	—
571	8. 2.18	0	P	Indurated sore at fraenum. Marked general adenitis.	0	0	—
1192	10. 5.18	0	P	Indurated ring of small ulcers in sulcus.	0	0	—
463	18. 1.18	0	P	Indurated moist ulcer on glans near corona.	—	—	—
1340	31. 5.18	0	P	Septic ulcer perforating fraenum.	4	0	—
570	8. 2.18	0	P	Small eroded papule on skin of prepuce, Dsl.	4	0	—
143	13.11.17	0	P	Four sores on under-surface of prepuce. Marked general adenitis.	—	—	—
1333	31. 5.18	0	P	Septic ulcer at torn fraenum.	2	0	—
557	15. 2.18	0	P	Ulcer with undermined edges in sulcus R.	—	—	—
931	12. 4.18	0	P	Large irregular ulcer on outer surface of prepuce, L. Punched out septic ulcer on pubis.	4	0	—
257	27.11.17	0	P	Multiple indurated sores in coronal sulcus.	—	—	—
1381	14. 6.18	D	P	One indurated ulcer at torn fraenum.	2	0	—
156	15.11.17	0	P	Sores on under-surface of prepuce.	—	—	—
157	31.10.17	0	P	Sore in sulcus L. Marked general adenitis.	—	—	—
158	31.10.17	D	P	Indurated sore on under-surface of prepuce.	—	—	—
442	18. 1.18	0	P	Sore at fraenum. Scars of sores on under-surface of prepuce.	—	—	—
321	2.12.17	0	P	Sore at torn fraenum. Marked general adenitis.	—	—	—
72	13.11.17	0	P	Indurated sore in sulcus R. Gonorrhoea.	—	—	—
1273	17. 5.18	0	P	Indurated ulcers on glans Dsl. and on under-surface of prepuce R. Septic torn fraenum.	0	0	—
1195	17. 5.18	0	P	Healing indurated sore at meatus.	8	0	—
1533	5. 7.18	0	P	Septic ulcer at fraenum.	0	0	—
1218	17. 5.18	0	P	Sore on under-surface of prepuce.	2	0	—
1326	31. 5.18	0	P	Ulcer at base of penis, R.V.	0	0	—
1275	17. 5.18	0	P	Indurated ulcer at torn fraenum. Marked general adenitis.	4	0	—

Spironema pallidum and with Negative Wassermann Reactions.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
—	7. 6.18	Healed.	—	—
—	10. 2.18	Healed.	26. 7.18	0
—	8.11.17	Healed.	—	—
—	7. 1.18	Healed.	19. 5.18	0
—	6. 3.18	Healed.	—	—
—	4.12.17	Healed.	—	—
—	2. 3.18	Healed.	—	—
—	3. 1.18	Healed.	—	—
—	Oct. 1917	Healed.	8. 2.18	0
—	30. 3.18	Healed.	—	—
—	2. 1.18	Healed.	—	—
—	15. 1.18	Healed.	7. 6.18	0
—	16.11.17	All healed.	12. 3.18	0
—	Apr. or May 1918	Healed.	—	—
—	Oct. 1917	Healed.	22. 2.18	0
—	Aug. 1917	Healed.	4. 1.18	0
—	Sept. 1917	Healed.	19. 7.18	0
—	20.11.17	Healed.	8. 2.18	0
—	Nov. 1917	Almost healed.	—	—
—	—	Healed.	16. 8.18	0
—	24. 4.18	Healed.	9. 8.18	0
Two doses of Galyl Apr. and May 1918, i. e. before the demonstration of <i>S. pallidum</i> .	28. 3.18	Healed.	—	—
—	10. 4.18	Healed.	—	—
Had three doses of Galyl, Apr. 1918, i. e. before the demonstration of <i>S. pallidum</i> .	1. 3.18	—	—	—
—	15. 4.18	Healed.	—	—
—	1. 4.18	Healed.	—	—

TABLE 10 (continued).

Selected Examples of Men with Sores which were found to contain

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
1154	10. 5.18	0	P	Phagedenic ulcer perforating fraenum.	2	0	—
345	5. 1.18	0	P	Indurated ulcer on under-surface of prepuce, invading sulcus L.	—	—	—
393	11. 1.18	0	P	Sore on edge of prepuce L. Bubo L. groin.	—	—	—
796	28. 9.17	0	P	Sores on glans Dsl. and body of penis R.	—	—	—
326	21.12.17	0	P	Indurated phagedenic sore in sulcus L. Dsl. extending on to glans and under prepuce.	—	—	—
920	29. 3.18	0	P	Subpreputial ulcer R. Dsl. near edge of prepuce. Sore in sulcus L.	2	0	—
273	30.11.17	0	P	Numerous small abrasions on glans and in sulcus.	—	—	—
1035	19. 4.18	0	P	Septic sore at fraenum.	5	0	—
1371	7. 6.18	D	P	Hunterian sore on under-surface of prepuce Dsl. R.	2	0	—

TABLE 11. *Selected Examples of Men with no Active Lesions except Wassermann*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
498	July 1917	0	—	Nil.	—	—	—
1253	17. 5.18	0	—	Scar of deep excavated ulcer on glans to R. of fraenum, with urinary fistula at base.	2	0	—
287	7.12.17	0	—	Scar of small sore in sulcus L.	—	—	—
81	12. 9.17	0	—	Scar of sore in sulcus.	—	—	—
66	24.10.17	0	—	Scar of sore at meatus.	—	—	—
1000	19. 4.18	0	—	Scar of sore on under-surface of prepuce R. V.	3	0	—
138	14.12.17	0	—	Scar of sore in sulcus R.	—	—	—

Spironema pallidum and with Negative Wassermann Reactions.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>W.R. Result.</i>
—	6. 4.18	Healed.	—	—
—	Nov. 1917	Healed.	12. 4.18	0
—	28.10.17	Healed.	—	—
—	Aug. 1917	Healed.	22. 2.18	W.P.
—	Nov. 1917	Healed.	5. 1.18	0
			18. 1.18	0
Gonorrhoea and W.R. 'slight P.', Oct. 1917. Treated with 2.6 gm. Galyl Nov. 1917—Jan. 1918.	June 1917	Healed. ? Reinfection or previous diagnosis incorrect.	14. 6.18	0
—	Nov. 1917	Healed.	—	—
—	5. 2.18	Healed.	—	—
—	28. 4.18	Healed.	—	—

Healing or Scars of Recently healed Inoculation Sores, and Negative Reactions.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>W.R. Result.</i>
June 1917, sore on penis, <i>S. pallidum</i> P. W.R. 0. Treated with two doses of Galyl.	Apr. 1917	—	18. 1.18	0
Apr. 1918 ulcer on glans. <i>S. pallidum</i> 0. Three injections of Galyl Apr.—May 1918. Rapid healing. 20.4.18, W.R. P.	Jan. 1918	—	—	—
<i>S. pallidum</i> P. One dose of '914'.	Oct. 1917	—	—	—
<i>S. pallidum</i> P. in Sept. 1917, treated with three doses of Galyl. Sept.—Oct. 1917.	13. 8.17	—	19.11.17 8. 2.18	0 0
Sore treated with one dose of '606' on 6.10.17.	Aug. 1917	—	18. 1.18 12. 4.18	0 0
<i>S. pallidum</i> P. in sore before healing.	23. 2.18	—	—	—
<i>S. pallidum</i> P. treated with two doses of Galyl.	18.11.17	—	18. 2.18 V.W.P. 26. 4.18 30. 8.18	0 0 0

TABLE 11. *Selected Examples of Men with no Active Lesions except Negative Wassermann*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
1291	31. 5.18	0	—	Scar of sore in sulcus Dsl.	0	0	—
1392	21. 6.18	0	0	Hunterian sore, healing in sulcus R.	0	0	—
1282	31. 5.18	D	—	Scars of sores (three) in sulcus Dsl.R.	6	0	—
1405	14. 6.18	0	—	Healing ulcers on corona Dsl. and on under-surface of prepuce.	0	0	—
1516	5. 7.18	0	0	Scar of indurated sore in sulcus L.	0	0	—
1386	14. 6.18	0	—	Nil.	0	0	—
1445	21. 6.18	0	—	Septic sore at torn fraenum. Two septic ulcers in sulcus R. and one in sulcus Dsl.	2	0	—
937	19. 4.18	0	—	Indurated scars on edge of prepuce causing phimosis. Bubo L. groin.	4	0	—
36	9.11.17	0	—	Scars of sores in sulcus.	—	—	—
1247	17. 5.18	0	—	Scars of sores on prepuce Dsl.	0	0	—

TABLE 12. *Men in the 'pre-Wassermann' Stage in whom Spirochaeta was present but who later*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
529	1. 2.18	0	—	Indurated scar of sore in sulcus Dsl.	6	0	—
362	21.12.17	0	0	Multiple sores on edge of prepuce.	—	—	—
205	18.10.17	0	0	Sores on under-surface of prepuce and on scrotum.	—	—	—
1470	31. 5.18	0	—	Indurated healing ulcer in sulcus Dsl.	4	0	—
1342	31. 5.18	0	—	Indurated scar to L. of fraenum.	0	0	—

Healing or Scars of Recently healed Inoculation Sores, and Reactions (continued).

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>	
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date. Result.</i>
Sore treated with two doses of Galyl. W.R. W.P. on 10.8.17.	July 1917	—	— —
Frequent <i>S. pallidum</i> tests previously 0. One dose of Galyl 28.5.18, before admission. W.R. D., 14.6.18.	1. 5.18	Healed.	— —
<i>S. pallidum</i> P., May 1918.	1. 5.18	—	— —
<i>S. pallidum</i> P., May 1918. One dose of Galyl in May 1918.	1. 5.18	Healed.	— —
Sore on penis, <i>S. pallidum</i> P., June 1918.	24. 4.18	—	— —
Had two doses of Galyl, May and June 1918. Sore on penis. <i>S. pallidum</i> P., May 1918.	20. 4.18	—	31. 6.18 0 6. 9.18 0
<i>S. pallidum</i> P., May 1918. Two doses of Galyl, May and June 1918.	1. 5.18	Healed.	— —
<i>S. pallidum</i> P., Mar. 1918.	12. 2.18	—	— —
Sore in sulcus Oct. 1917. <i>S. pallidum</i> P. Had three doses of Galyl Oct. 1917.	Sept. 1917	—	— —
W.R. P., 2.4.18, with sore on penis. Treated with two doses of Galyl.	7. 1.18	—	— —

pallidum was not found owing to Previous Antisyphilitic Treatment developed Syphilis.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>	
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date. Result.</i>
Local antiseptic to sore.	8.11.17	No treatment. W.R. became P. with general adenitis and glossitis.	— —
Local antiseptic to sores.	30.11.17	Healed.	28.12.17 P
Local antiseptic to sore.	Sept. 1917	Healed.	31.10.17 P
Local antiseptic to sore.	18. 5.18	Healed. Macular syphilide developed before treatment.	21. 6.18 P
Hg treatment for one month.	5. 4.18	—	4. 6.18 P

TABLE 13. *Men with Cerebro-Spinal Syphilis who*

Ref. No.	W.R.		<i>Present Evidence of Syphilis.</i>				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
907	7. 4.18	0	—	Marked general adenitis.	50	0	—
1071	26. 4.18	0	—	8th nerve deafness and facial paralysis L.	164	0000	—

TABLE 14. *Men with no active Lesions or with Non-syphilitic Wassermann*

Ref. No.	W.R.		<i>Present Evidence of Syphilis.</i>				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
968	12. 4.18	0	—	Nil.	8	0	—
1439	24. 5.18	0.	—	Mercurial stomatitis.	—	—	—
111	29.10.17	0	—	Scar on under-surface of prepuce.	—	—	—
917	29. 3.18	0	—	Scar of sore at root of penis V.	2	0	—
1380	2. 6.18	0	—	Scar of excised sore on dorsum of proximal inter- phalangeal joint of 5th finger L.	0	0	—
921	5. 4.18	0	0	Septic ulcer at fraenum.	6	0	—
561	8. 2.18	0	—	Enlarged glands in groin. No lesions of syphilis.	—	—	—
650	22. 2.18	D	—	Scar of sore in sulcus L.	0	0	—

had Negative Wassermann Reactions.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
Sore on penis in 1915 treated with two doses of '606' and Hg for six months.	1915	—	23. 8.18	0
In Oct. 1917, sore on penis, <i>S. pallidum</i> P. Treated with two doses of Galyl.	1. 9.17	Face recovered.	—	—

Lesions who had a Definite History of Syphilis but Negative Reactions.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
Sore on penis and bubo, Feb. 1917. Hg for twelve months. W.R. P., 8.3.17. W.R. P., 30.10.17.	Jan. 1917	—	—	—
In 1916 rash and anaemia. W.R. P. Treated with one dose of '606'; two of '914'; seven of Galyl and 29 injections of Hg; also inunctions, pills, and mixture.	Apr. 1916	—	21. 6.18	0
Syphilis in 1909. Two years Hg injections and pills. W.R. P. in 1916: given one dose of '606' and 24 injections of Hg. W.R. P. in Mar. 1917.	1909	—	—	—
In 1914 two sores on penis at root V. Rash. W.R. P. One injection of '606' and Hg pills. 26.1.17, W.R. P. During 1917 three injections of Galyl and 12 injections of Hg.	Oct. 1914	—	—	—
Sore on finger and syphilitic in 1911. Treated with two doses of '606' and Hg pills for two years.	1911	—	—	—
Syphilis in Sept. 1917 (Army). Treated with six doses of '914'.	1917	Healed without treatment. Present sore not syphilitic.	—	—
In Jan. 1918 given three doses of Galyl because of a positive W.R. in Dec. 1917.	1907	—	19. 7.18	0
Sore on penis and sore throat. 18 months Hg treatment.	15.11.16	—	1. 3.18 24. 5.18	D 0

TABLE 14. *Men with no active Lesions or with Non-Syphilitic Wassermann*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
1465	21. 6.18	0	—	Scar of sore in sulcus R.	4	0	—
1425	31. 5.18	0	—	Scar of sore on prepuce Dsl.L.	—	—	—
1191	17. 5.18	0	—	Healed perforation of palate and post-pharyngeal wall. Old iritis L.	4	0	—

TABLE 15. *Selected Examples of Men with Sores or Local Conditions yet were found not*

Ref. No.	W.R.		Present Evidence of Syphilis.				
	Date.	Result.	<i>S. pall.</i>	Clinical.	C.S.F. Cells.	W.R.	Eyes.
430	18. 1.18	0	0	Oedema of prepuce. Acquired phimosis. Sores on under-surface of prepuce. Inguinal and cervical adenitis.	—	—	—
1415	14. 6.18	0	—	Faint scar of non-indurated sore on under-surface of prepuce Dsl.	—	—	—
466	28.11.17	0	0	Septic ulcer on body of penis R. Lymphangitis of penis Dsl. Slight inguinal adenitis.	—	—	—
1374	7. 6.18	0	0	Septic soft undermined ulcer on prepuce. Slight inguinal adenitis.	—	—	—
1413	14. 6.18	0	—	Gonorrhoea. Acquired phimosis and balanitis. General adenitis.	—	—	—
525	1. 2.18	0	0	Septic sores at torn fraenum and on prepuce. Slight inguinal and cervical adenitis.	—	—	—
1234	17. 5.18	0	0	Healing sore at fraenum. General adenitis. Scabies.	—	—	—
625	15. 2.18	0	0	Hollowed out ulcer on glans Dsl. Gonorrhoea.	—	—	—
1395	4. 5.18	0	—	Scar of operation for R. inguinal bubo.	—	—	—
277	1.12.17	0	0	Indurated sore in sulcus R. General adenitis. Non-syphilitic ulcer on uvula.	—	—	—
234	23.11.17	0	0	Abrasion of penis.	—	—	—

Lesions who had a Definite History of Syphilis but Negative Reactions (continued).

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
Sore in sulcus R. Roseolar syphilide. Treated with 2.55 grm. of '914' in Apr. 1918 and mercury for one month.	Jan. 1918	—	—	—
Sore on penis. <i>S. pallidum</i> P. Rash, congested throat. W.R. P., Jan. 1918. Two doses of Galyt, Feb. 1918.	? Jan. 1918	—	—	—
Sore on penis, sore throat and ulceration of palate. Hg pills for two years.	1910	—	24. 5.18	P

who had Negative Wassermann Reactions, were Untreated and to develop Syphilis.

<i>Previous Evidence of Syphilis.</i>	<i>Probable Infection. Date.</i>	<i>Subsequent Evidence of Syphilis.</i>		
		<i>Effect of Treatment and Relapses.</i>	<i>Further W.R. Date.</i>	<i>Result.</i>
—	4.11.17	—	1. 2.18	0
Sore appeared three days after infection.	25. 5.18	—	9. 8.18 20. 9.18	0 0
—	12.11.17	—	6.12.17 9.12.17 18. 1.18	0 0 0
—	7. 2.18	—	17. 6.18 17. 7.18	0 0
—	28. 5.18	—	28. 6.18 2. 8.18 30. 8.18	0 0 0
—	8.12.17	—	22. 3.18 12. 4.18 3. 5.18	0 0 0
—	25. 4.18	—	22. 5.18 28. 6.18 26. 7.18	0 0 0
—	19.11.17	—	19. 3.18 4. 4.18 17. 5.18	0 0 0
Scar on penis.	1. 4.18	—	25. 5.18 14. 6.18 28. 6.18	0 0 0
—	7.11.17	—	5. 1.18 1. 2.18	0 0
—	12. 9.17	—	19. 4.18	0

VIII. DISCUSSION.

It will be observed that among 1,177 men who gave positive Wassermann reactions 1,112 showed more or less conclusive evidence of syphilis.

65 men did not show conclusive evidence ; in fact they showed no direct evidence either for or against. As will be seen from the examples given in Table 9 the great majority of these men were suffering from gonorrhoea or sores on the penis in which *S. pallidum* could not be found owing to local antiseptic treatment or to the fact that they were healed or healing. Under these circumstances no evidence of syphilis *can* be available in the absence of general signs. It may only be said that all of these men were, or had been, infected with venereal disease, and therefore that their condition was not inconsistent with a diagnosis of syphilis.

Looking at the evidence from a less judicial point of view we have no difficulty ourselves in accepting the evidence of syphilis supplied by the positive reactions. It is well known to us that if we had refrained from treating these men the majority would have developed manifest signs of syphilis. With regard to the remainder, it is common to observe cases of later syphilis who never had any symptoms originally beyond a 'chancroid' or 'gonorrhoea'. Several examples of this will be found among the illustrative cases ; it is a phenomenon particularly well known to neurologists. If such cases had had Wassermann reactions carried out at the beginning in spite of the absence of evidence of syphilis, they would have been positive in many as they were in our series.

To turn now to the other aspect of the question : if we accept the indication of syphilis given by a positive reaction, to what extent are these reactions invariable in cases of syphilis ?

This is a subject on which there is great diversity of opinion according to the literature, but in practice it is not so. This diversity depends largely upon a confused classification of material, by which cases which are probably cured are still counted syphilitic, and upon incorrect diagnosis.

It is the practice in the literature to give the number of positive reactions in syphilis as percentages of the examples of each stage of the disease.

Primary and 'latent' cases give the fewest positive results, and naturally so, since a positive result in primary syphilis depends solely upon the length of infection, while among 'latent' cases it depends upon the efficacy of the treatment which has been applied. It is to be hoped that many of the cases described as 'latent' are actually cured.

Thus we see no object in recording the results in primary or 'latent' syphilis. We obtained in the 620 men with primary syphilis in this series 73 per cent. positive, but in a series at a civil hospital we should get a much higher percentage, because we should see fewer of the very early cases.

We have no figures to show our results in 'latent' cases because we do not use this classification, and there is no practical value in knowing the percentage positive in such men. 'Latent' cases with a positive Wassermann reaction are included in groups C or D, according to the length of time which has elapsed since infection. They have no external lesions but have of course internal lesions, and therefore there is no object in separating them from the 'manifest' cases. 'Latent' cases with negative reactions (*vide* Table 14, p. 48) are also included in groups C and D, although we have no evidence that they are still syphilitic. There were only 11 in the whole series.

The practical point to decide is how many cases of manifest syphilis give positive Wassermann reactions? That is to say, how many give negative? Or, further, given a man with any lesion or condition which may be syphilitic, what are the chances that it may be syphilitic even though the Wassermann reaction is negative?

If we take our C cases, which include all acute secondary syphilis and some early 'tertiary' up to 18 months from infection, practically all of whom had lesions or the remnants of lesions which had been treated or not treated, we find that we obtained only three negative results out of a total of 471 men. One of these negative cases was Case No. 254 described on p. 14, one was a cerebro-spinal case, a 'nerve relapse' (Case No. 1071, Table 13, p. 48), while the third was a relapsed 'tertiary' case (Case No. 46, p. 15).

Case No. 254 was not acute. He was clearly resolving after mercurial inunctions. Therefore we may say that there was no instance (in this series) of a negative reaction in an acute secondary syphilitic with a rash.

Thus when a man has a suspicious rash and shows a negative reaction the chances that the lesion is nevertheless syphilitic are practically *nil*. In fact, when any case of disease is suspected to be recent syphilis and the reaction is negative the diagnosis of syphilis is almost certain to be wrong. This is an attitude which several observers have adopted towards the technique here in use, with satisfactory results. It only requires modification in certain special forms of disease, for instance, in neurological or ophthalmological work.

In the later D cases over 18 months from infection, which include late secondary, tertiary, and 'latent' with positive reactions, it is also very rare to obtain negative results although they are possibly rather commoner.

We have 268 D cases, and two gave negative results, namely, one manifest 'tertiary' (Case No. 1271, p. 15), and one cerebro-spinal (Case No. 907, Table 13, p. 48).

It is of interest to note that each of the 'tertiary' cases upon re-application of the reaction, now gave positive results.

To sum up the evidence of these figures it may be said that negative reactions in cases of syphilis which exhibit manifest signs are very rare whether they have been treated or not, and

thus the negative test is of very great significance in the exclusion of a diagnosis of syphilis.

Although we are unable to *prove* that every case in the series which gave a positive reaction was syphilitic, nevertheless we are of opinion that a reasonable critic can hardly dispute the overwhelming importance of this result in diagnosis.

It is true that this series does not include examples of certain diseases which have been alleged to induce a positive reaction, and therefore we cannot claim in this place that a positive result is *universally* diagnostic of syphilis. We can, however, justly suggest that, in the absence of such diseases, this positive reaction is conclusive.

With regard to the significance of the test in non-manifest or 'latent' cases no deductions can be drawn from this material. This is a question of the probability of 'cure', and it depends upon factors which are not here under discussion.

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